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(2-92)
Sheet 1 of 4

Form PTO-1449

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)
4637USApplication Number
Not Yet Assigned

Applicant Joseph A. Orr et al.

Filing Date March 19, 2001

Group Art Unit

PTO
9/12/01
15:573

03/10/01

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>W</i>	4,221,224	09/1980	Clark			
	4,363,327	12/1982	Clark			
	4,463,764	08/1984	Anderson et al.			
	4,608,995	09/1986	Linnarsson et al.			
	5,060,656	10/1991	Howard			
	5,069,220	12/1991	Casparie et al.			
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	5,285,794	02/1994	Lynch			
	5,299,579	04/1994	Gedeon et al.			
	5,402,796	04/1995	Packer et al.			
	5,632,281	05/1997	Rayburn			
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<i>W</i>	5,971,934	10/1999	Scherer et al.			
<i>R</i>	6,102,868	08/2000	Banner et al.			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
<i>P</i>	28 49 217 A1	05/1980	DE				
<i>TC</i>	96/24285	08/1996	PCT				
<i>C</i>	WO 98/12963	04/1998	PCT				

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(Including Author, Title, Date, Pertinent Pages, Etc.)

<i>R</i>	H. Blomquist et al., <i>A Non-Invasive Technique for Measurement of Lung Perfusion</i> , Intensive Care Medicine 1986; 12:172.
<i>J</i>	R.J. Bosman et al, <i>Non-Invasive Pulmonary Blood Flow Measurement by Means of CO₂ Analysis Of Expiratory Gases</i> , Intensive Care Medicine 1991, 17:98-102.
<i>E</i>	A. Gedeon, <i>Non-Invasive Pulmonary Blood Flow for Optimal Peep</i> , ICOR AB, Ulvsundavagen 178 B, S-161 30 Bromma, Sweden, Pages 49-58.

EXAMINER

Joseph A. Orr

DATE CONSIDERED

2/17/01

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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Applicant Joseph A. Orr et al.

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Group Art Unit Unknown

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	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages, Etc.)

		Capek, J.M., <i>Noninvasive Measurement of Cardiac Output Using Partial CO₂ Rebreathing</i> [Dissertation], Rensselaer Polytechnic Institute (1988) 28:351 p. (due to large number of pages, only table of contents and abstract have been copied).
		Capek, J.M., et al., <i>Noninvasive Measurement of Cardiac Output Using Partial CO₂ Rebreathing</i> , IEEE Trans. Biomed. Eng. (1988) 35(9):653-61.
		Davies, Gerald G., et al., <i>Continuous Fick cardiac output compared to thermodilution cardiac output</i> , Critical Care Medicine (1986) 14(10):881-85.
		Elliot, C. Gregory, et al., <i>Complications of Pulmonary Artery Catheterization in the Care of Critically Ill Patients</i> , Chest (1979) 76:647-52.
		Fick, A., <i>Über die Messung des Blutquantums in den Herzventrikeln</i> , Sitzungsbericht der Physikalisch-Medizinischen Gesellschaft zu Würzburg (1870) 36 (2 pages).
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		Gama de Abreu, et al., <i>Partial carbon dioxide rebreathing: A reliable technique for noninvasive measurement of nonshunted pulmonary capillary blood flow</i> , Crit. Care Med. (1997) 25(4):675-83.
		Gedeon, A., et al., <i>Noninvasive Cardiac Output Determined with a New Method Based on Gas Exchange Measurements and Carbon Dioxide Rebreathing: A Study in Animals/Pigs</i> , J. Clin. Monit. (1992) 8(4):267-78.

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Form PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION <i>(Use several sheets if necessary)</i>				Docket Number (Optional) 4637US		Application Number Not Yet Assigned	
				Applicant Joseph A. Orr et al.			
				Filing Date March 19, 2001		Group Art Unit Unknown	

U.S. PATENT DOCUMENTS							
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FOREIGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

OTHER DOCUMENTS			(Including Author, Title, Date, Pertinent Pages, Etc.)
P			Gedeon, A., et al., <i>A new method for noninvasive bedside determination of pulmonary blood flow</i> , Med. & Biol. Eng. & Comput. (1980) 18:411-418.
			Guyton, A.E., et al., <i>Measurement of cardiac output by the direct Fick method</i> , In: <i>Cardiac output and its regulation</i> , W.B. Saunders Company (1973) 21-39.
			Kyoku, I., et al. <i>Measurement of cardiac output by Fick method using CO₂ analyzer Servo</i> , Kyobu Geka. Japanese Journal of Thoracic Surgery (1988) 41(12):966-70.
			Lynch, J., et al., <i>Comparison of a modified Fick method with thermodilution for determining cardiac output in critically ill patients on mechanical ventilation</i> , Intensive Care Med. (1990) 16:248-51.
			Mahutte, C. Kees, et al., <i>Relationship of Thermodilution Cardiac Output to Metabolic Measurements and Mixed Venous Oxygen Saturation</i> , Chest (1993) 104(4):1236-42.
			Miller, D.M., et al., <i>A Simple Method for the Continuous Noninvasive Estimate of Cardiac Output Using the Maxima Breathing System. A Pilot Study</i> , Anaesth. Intens. Care (1997) 25(1):23-28.
			Österlund, B., et al., <i>A new method of using gas exchange measurements for the noninvasive determination of cardiac output: clinical experiences in adults following cardiac surgery</i> , Acta Anaesthesiol Scand (1995) 39:727-32.
↓			Sackner, Marvin A., <i>Measurement of cardiac output by alveolar gas exchange</i> , Handbook of Physiology ~ The Respiratory System IV, Chapter 13, 233-55.
P			Spalding, H. K., et al., <i>Carbon Dioxide (CO₂) Elimination Rate Accurately Predicts Cardiac Output</i> , Anesthesiology (1997) 87(3A) (1 page).

EXAMINER	DATE CONSIDERED
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4637USApplication Number
Not Yet AssignedApplicant **Joseph A. Orr et al.**Filing Date **March 19, 2001**Group Art Unit **Unknown**

U.S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages, Etc.)

		Sprung, Charles L., et al., <i>Ventricular Arrhythmias During Swan-Ganz Catheterization of the Critically Ill</i> , Chest (1981) 79:413-15.
		Taskar, V., et al., <i>Dynamics of Carbon Dioxide Elimination Following Ventilator Resetting</i> , Chest (1995) 108:196-202.
		Winkler, Tilo, et al., <i>Pulmonary Capillary Blood Flow by Partial CO₂ Rebreathing: A Simulation Study Using a Bicompartamental Model of Gas Exchange</i> , Crit. Care Med. (1998), Vol. 26, No. 1 (Suppl.), A105, Abstract #234, (1 page).
		Roy, Rob J., et al., <i>Noninvasive Differential Blood Flow Monitoring During One-Lung Anesthesia</i> , IEEE Engineering in Medicine & Biology Soc. 11 th Annual Internat'l. Conference-1413 (1989) (2 pages).
		Gama de Abreu, M., et al., <i>Reliability of the Partial CO₂ Rebreathing Technique for Measurement of Cardiac Output</i> , Proceedings RC IEEE-EMBS & 14 th BMESI (1995), pp. 4.15-4.16.
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PTO/SB/08A (10-01)

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 2

Complete if Known

Application Number	09/813,225
Filing Date	March 20, 2001
First Named Inventor	Orr et al.
Group Art Unit	3761
Examiner Name	Unknown
Attorney Docket Number	2181-4637US (01-38)

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-			RECEIVED AUG 28 2002 TECHNOLOGY CENTER R3700
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
AP		WO 98/26710	06/25/1998	Novamatrix		
↓		WO 00/42908	07/27/2000	Metasensors		
Ⓢ		WO 00/67634	11/16/2000	Mault		
		WO 01/62148	08/30/2001	NTC Technology		

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	2	of	2
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Complete if Known

Application Number	09/813,225
Filing Date	March 20, 2001
First Named Inventor	Orr et al.
Group Art Unit	3761
Examiner Name	Unknown
Attorney Docket Number	2181-46371US (01-38)

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
P		PCT International Search Report of 7/22/02.	

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Examiner Signature		Date Considered	2/17/02
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